

# IGNITE

Interoperability: APIs and FHIR Heat Up

Webinar 4: APIs and Sponsors

INTEROPATHON | 2020 | Hosted by:



PRESENTED BY



# Today's Agenda

01

Welcome

02

Sponsors

Diamter Health, Lyniate and Augusto

03

**Application Programming Interfaces (APIs)**

1upHealth, Health Gorilla, HSLink

Q&A

04

05

Conclusion

Proud sponsor of

# INTEROPATHON



President and Chief  
Strategy Officer

May 21, 2020



# APIs Empower Incredible Apps



## Lyft and Uber work using GPS APIs

- Allows data to reliably be retrieved from driver and the rider
- Consistent, clean data format
- Machine algorithms work superbly on clean data
- Allows developers to focus on innovation (not normalizing data)

# FHIR Depends on Standard Data Inputs

```
{  
  "location": {  
    "lat": 51.0,  
    "lng": -0.1  
  },  
  "accuracy": 1200.4  
}
```

This is what Google APIs return for location data

The power of APIs is that this is incredibly simple, even for a developer who doesn't know much about geolocation:

- `location.lat` = latitude in degrees
- `location.lng` = longitude in degrees
- `accuracy` = radius in meters of accuracy

Simplicity = easy implementation

Can't customize data format and only 2 vendors!

Sample API call from <https://www.googleapis.com/geolocation/v1/geolocate>  
Source: <https://developers.google.com/maps/documentation/geolocation/intro>

# FHIR Example

```
{  
  "resourceType" : "MedicationStatement",  
  "id" : "uscore-ms1",  
  "meta" : {  
    "profile" : [  
      "http://hl7.org/fhir/us/core/StructureDefinition/us-core-medicationstatement"  
    ]  
  },  
  "text" : {  
    "status" : "generated",  
    "div" : <div xmlns="http://www.w3.org/1999/xhtml"\><p><b>Generated Narrative with Details</b></p><p><b>id</b>: uscore-ms1</p><p><b>meta</b>: </p><p><b>status</b>: active</p><p><b>medication</b>: lisinopril oral 10 mg <span style="background: LightGoldenRodYellow\>{  
Details : {RxNormExample.html(''  
5555(HOME) amy  
&gt; (ongoing)</p  
>},  
  "status" : "active",  
  "medicationCode" : {  
    "coding" : [  
      {  
        "system" : "http://www.nlm.nih.gov/research/umls/rxnorm",  
        "code" : "206765",  
        "display" : "Lisinopril 10 MG Oral Tablet [Prinivil]"  
      }  
    ],  
    "text" : "lisinop",  
  },  
  "subject" : {  
    "reference" : "Patient/example",  
    "display" : "Amy Shaw"  
  },  
  "effectivePeriod" : {  
    "start" : "2010-05-01"  
  },  
  "dateAsserted" : "2016-05-01T16:13:03Z"  
}
```

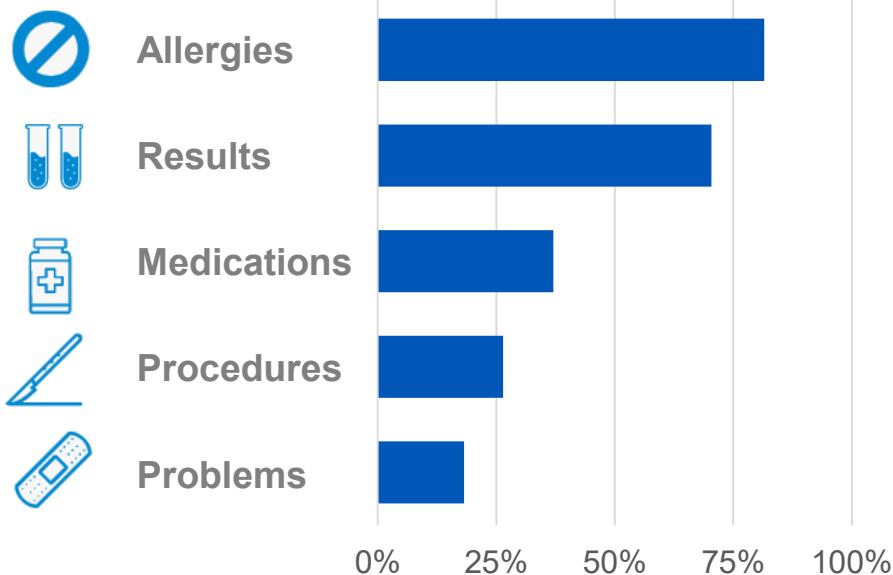
What happens if it's not coded right?

"coding" : [  
 {  
 "system" : "http://www.nlm.nih.gov/research/umls/rxnorm",  
 "code" : "206765",  
 "display" : "Lisinopril 10 MG Oral Tablet [Prinivil]"  
 }  
,  
],

What if text  
and coding  
don't align?

What happens when the sig is unstructured?

# FHIR Won't Ignite Without Clean Data



**How can we improve healthcare when**

- 80% of allergies aren't coded appropriately (30% no code at all)
- 70% of lab results don't use right vocabulary or units (45% = no LOINC)
- Nearly 40% of medications don't have right coding for quality measures<sup>1</sup>

# The Need For Data Refinement



## The Pipes

Transports crude clinical data from source to where needed



## Refinery

Create high-octane fuel from unrefined data resources



## The Car

Uses the fuel to drive improvements in healthcare

# FHIR Patient Access Demo

- <https://www.youtube.com/watch?v=zfcX8DJwAus>
- 1:53 running time

# Thank you.

Let's connect:

[www.DiameterHealth.com](http://www.DiameterHealth.com)

jdamore@diameterhealth.com





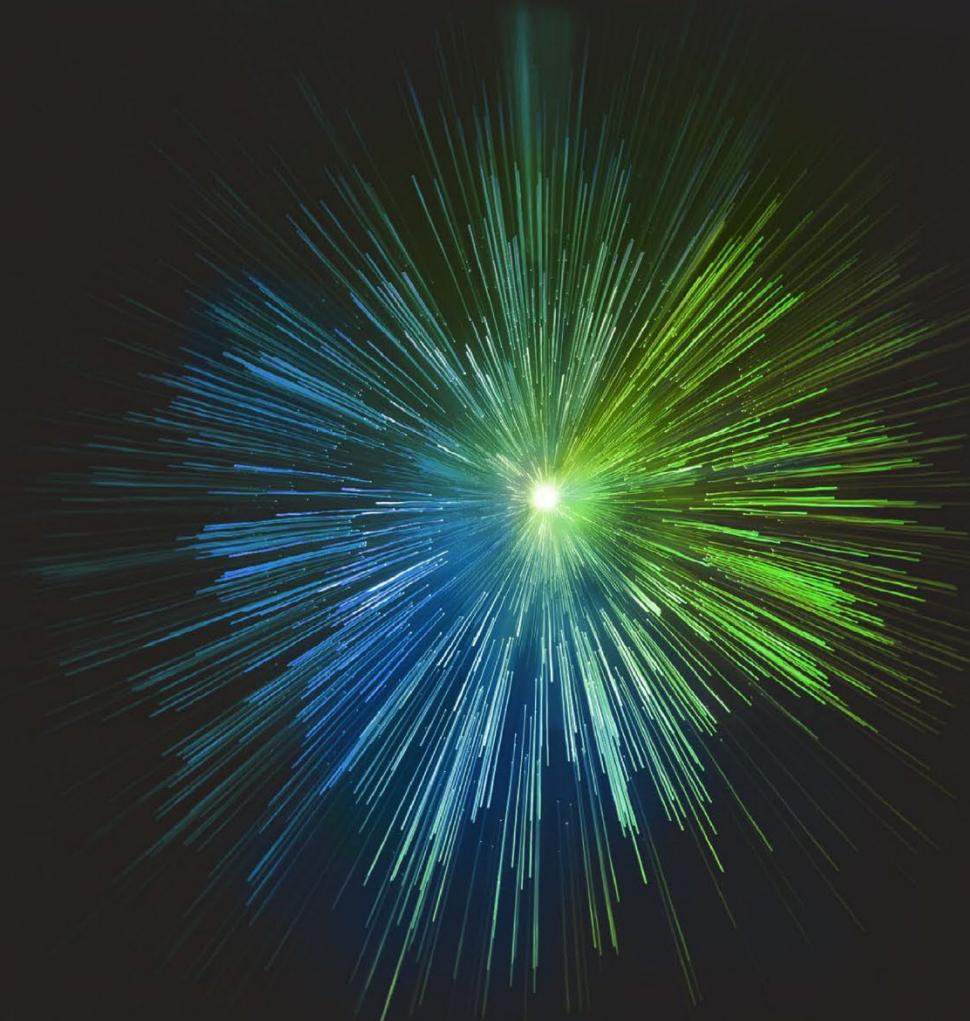
# Integration Redux

(map & reduce)



Sean Zitello

Director, Co-Creation Lab



## Why are we here?

What is this thing called Life?



"DON'T WORRY ABOUT ME SHOWING YOU UP, LUV —  
I'LL CATCH A DIFFERENT BUS HOME LATER!"



Chicken  
~ Egg

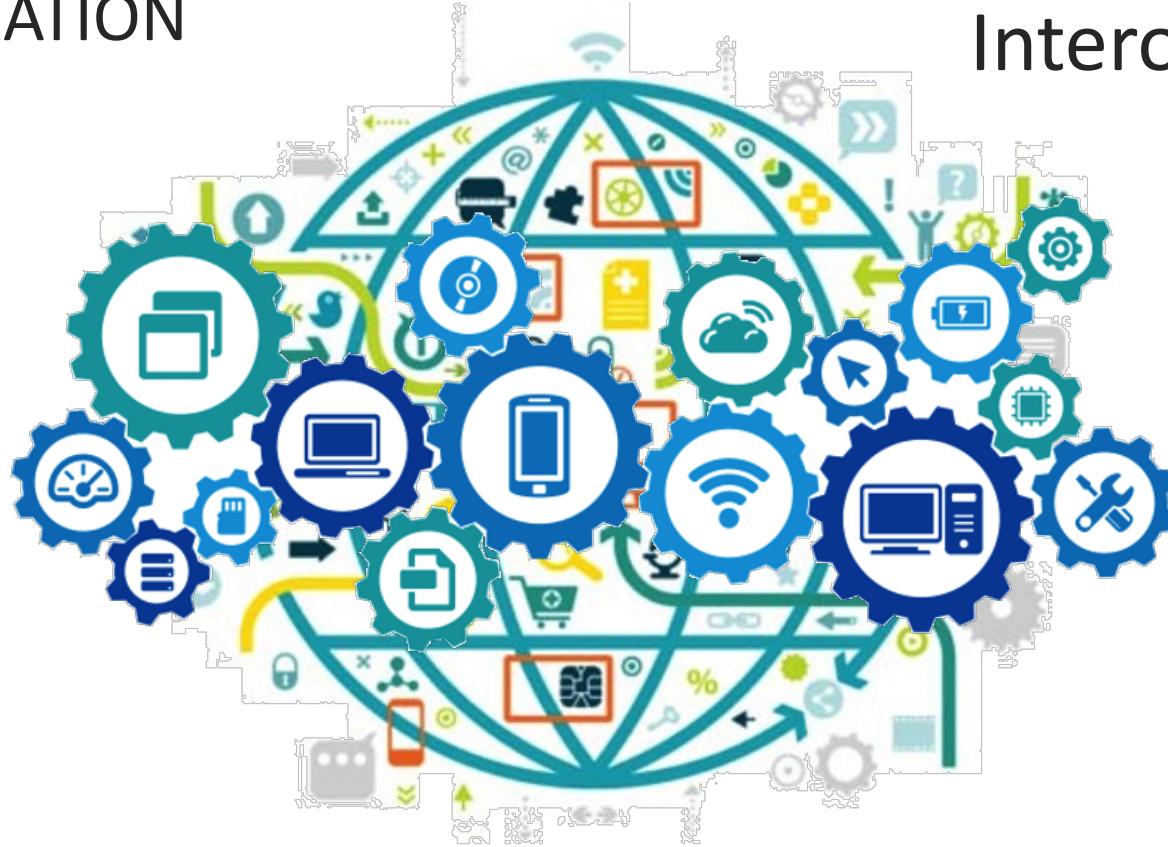
Wright  
Brothers



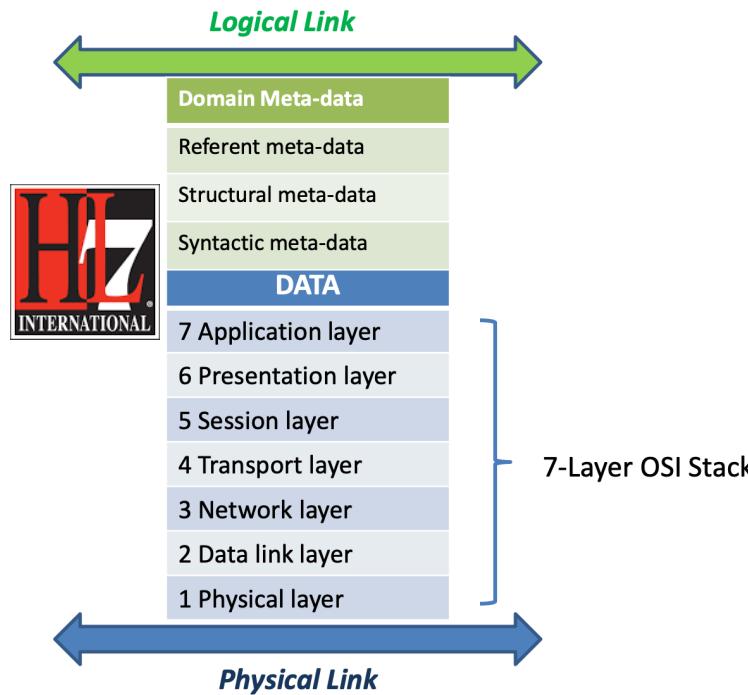
Model T

# INTEGRATION

# Interoperability



# Semantic Interoperability



Jeffery T. Pollock, and Ralph Hodgson, *Adaptive Information. Improving Business Through Semantic Interoperability, Grid Computing, and Enterprise Integration*. Wiley-InterScience, 2004, pg. 138

# EKG



INTEGRATION

# Golden Age of Healthcare IT





# Integration Redux

(map & reduce)

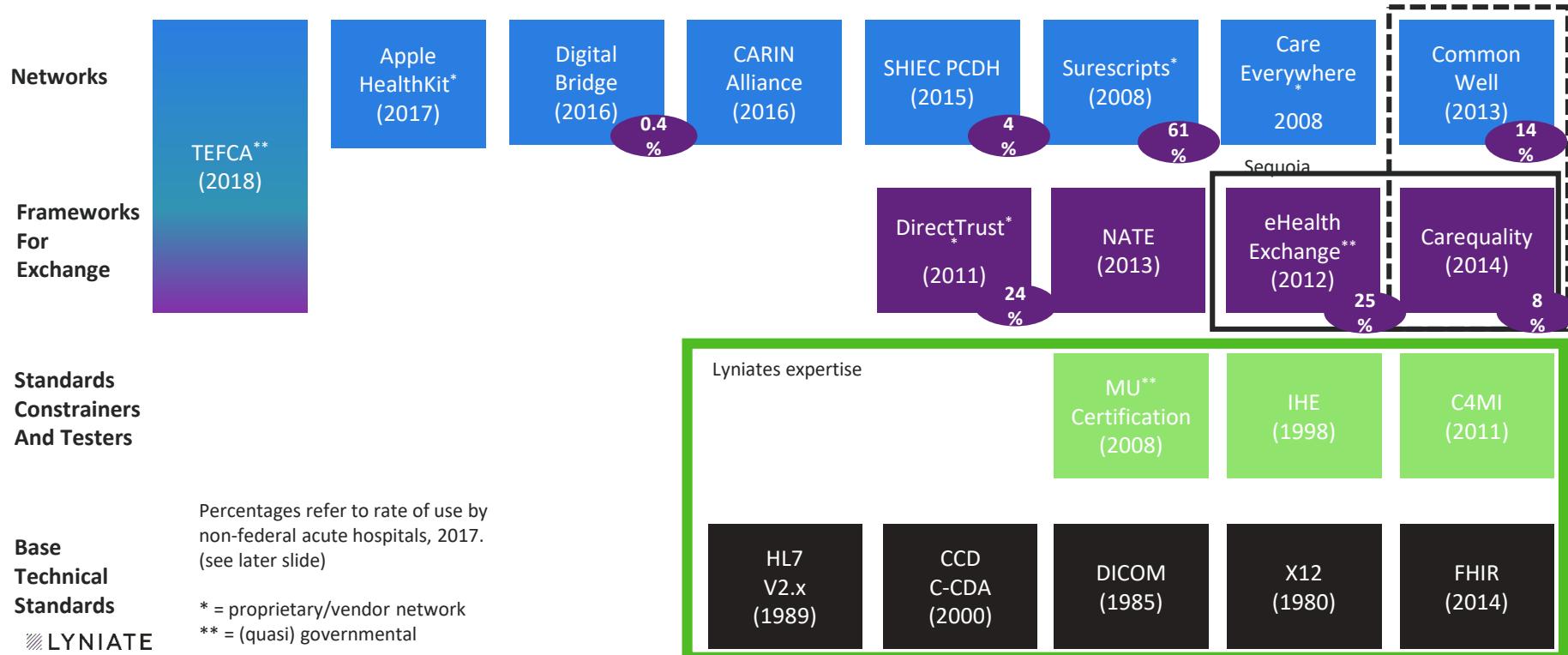


Sean Zitello

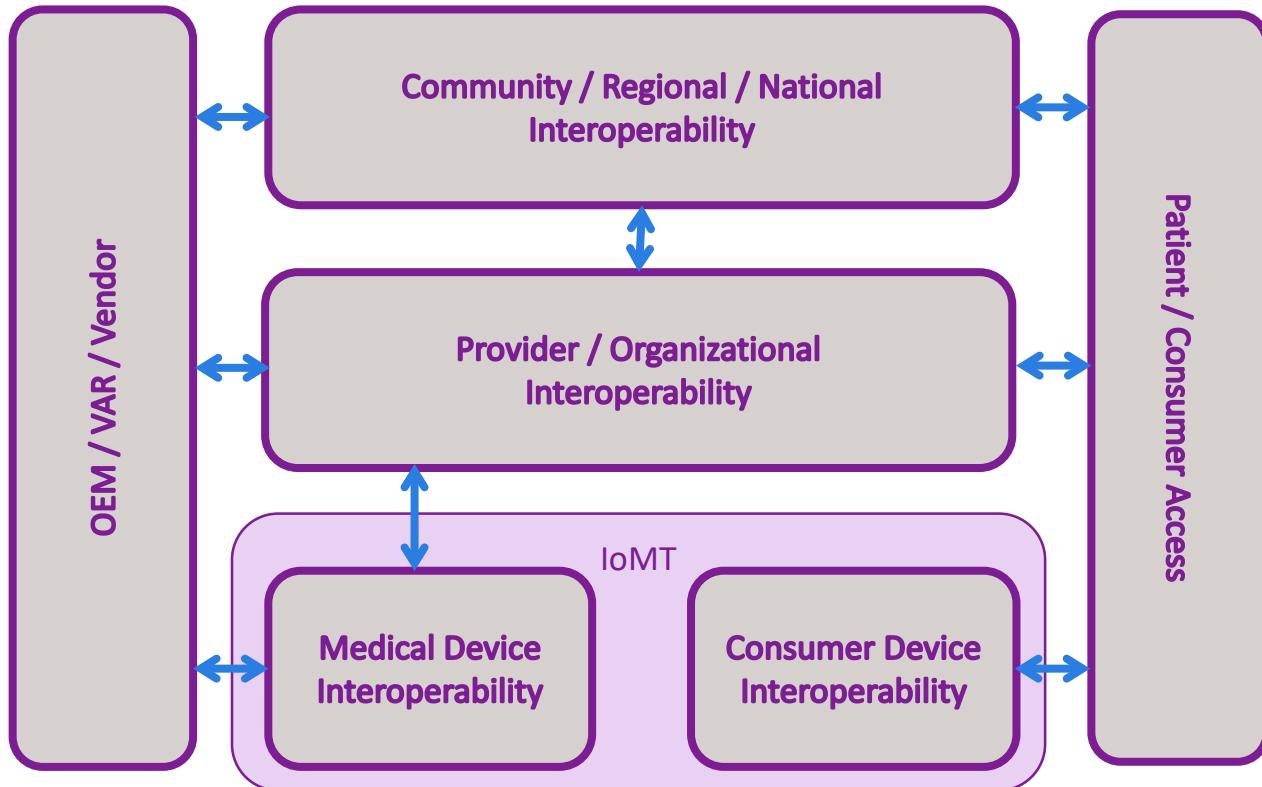
Director, Co-Creation Lab



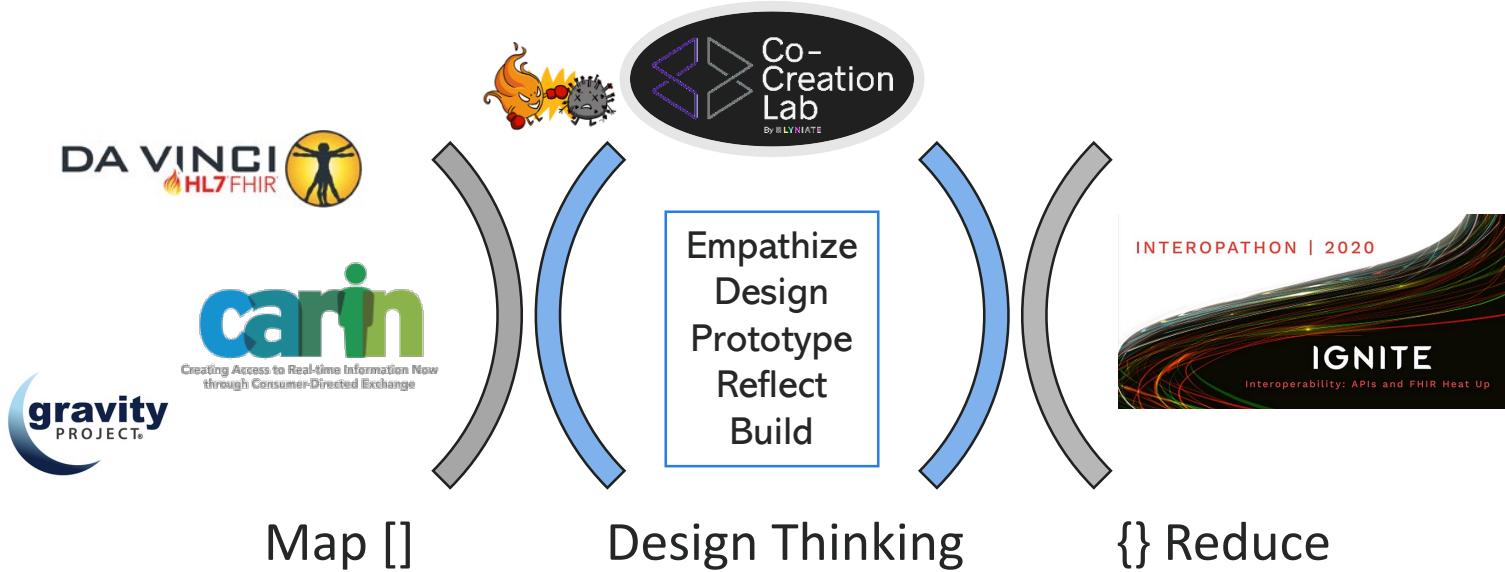
# *Standards Array ( Map )*



# Interoperability Personas ( Reduce )



# Integration Redux





# Augusto Health IT

We have the technical expertise, knowledge, and experience to help you execute your vision in healthcare and interoperability.

[augustohealthit.com](http://augustohealthit.com)

# Who are we?

- We are a custom software design and development consultancy.
- Based in Grand Rapids, MI & Greensboro, NC.
- Founded in 2016.
- We focus on cloud native web, mobile and SaaS solutions.



# Proud sponsors for the second time!

The Augusto team is splitting up to join other teams at the Interopathon. We are looking forward to meeting you and working together.



**Paul Warner**  
MiHIN Engagement Lead/  
Agile Coach



**Justin Wolgamot**  
MiHIN Technical Lead



**Anand Nathan**  
IOL Developer



**Sean Wcislo**  
IOL Developer



**Calvin Chopp**  
UX and Front End Developer



**Jim Becher**  
Technical Lead



**Brian Anderson**  
CEO



SCAN ME

# Clients We've Served



# What We Do

- **App Development**
  - Web
  - Mobile
  - SaaS
- **Staff Augmentation**
  - Project Managers
  - Cloud Solution Engineers
  - Application Developers
  - Remote & Integrated Development Teams
- **E-commerce Solutions**
  - B2C, B2B, B2B2C
  - Payment API Integrations
- **Cloud Engineering**
  - Serverless
  - Database Services
  - Mobile Services
  - Data and Analytics
  - DevOps
  - Infrastructure as Code
  - Containers
  - Security



# Partner Highlight



We have partnered with MiHIN from vision, development and support of multiple products including:

- Interoperability Land
- Advanced ACRs
- eConsent Management

“

Augusto's agile, product focused approach has delivered fantastic results for us in a short amount of time. If you're looking for a digital partner that makes your business, stakeholders, goals, constraints, and users an integral part of their software development process, give Augusto a call.”

**Matt E**  
Michigan Health Information Network (MiHIN)



# Do you need helping accelerating interoperability work?



 SCAN ME

We offer free consultations. Contact us today!

General Contact | [www.augustohealthit.com/contact-us](http://www.augustohealthit.com/contact-us)

Brian Anderson | [brian@augustohealthit.com](mailto:brian@augustohealthit.com)

Paul Warner | [paul@augustohealthit.com](mailto:paul@augustohealthit.com)



# Augusto Health

HELPING YOU EXECUTE YOUR VISION

# CMS Patient Access Rule Requirements for Health Plans



- <https://1up.health/products/cms-rule>

Contact [kyle@1up.health](mailto:kyle@1up.health), [ricky@1up.health](mailto:ricky@1up.health) to learn more

# Contents

- About 1upHealth
- 21st Century Cures Act Overview
- Who is being regulated
- Requirements for Health Plans
- Product and Architecture Overview
  - Deployment Options
  - Patient Access API
  - Provider Directory API
  - Payer-to-Payer Data Exchange
- Why 1upHealth

# About 1upHealth

**10K**

Connected  
Health  
Centers

**650**

Healthcare  
Companies  
on 1up APIs

**7000**

Transactions  
processed /  
second

**10**

Government  
Awards in  
Healthcare



I up works with



MassMutual



MassChallenge  
HealthTech  
Winner (Best Co)  
2019

\$1MLEAP Award  
for FHIR Bulk Data  
ONC Winner  
2018

Secure FHIR  
Server Challenge  
HHS 1st place  
2018

Privacy Policy  
Snapshot  
Challenge HHS  
2017

HealthCare Data  
Provenance  
Winner ONC  
2018

Consumer Health  
Data Aggregator  
Award HHS  
2017

# Data sharing via patients is happening

## Carin Alliance Health App Gallery

**1upHealth** built the **CARIN** Alliance Healthcare App Gallery showcasing FHIR Apps



## MassMutual Using 1up for Life Insurance Clients

**"1upHealth** are working with **MassMutual** to make sure we can all get our life insurance even though we cant be close to each other"



## Partners Healthcare Online Second Opinions

**Partners Healthcare Online** Second Opinions using **1upHealth** to get clinical data for provider second opinions



# 21st Century Cures Act Overview

## 21st Century Cures Act (Cures Act)

*Signed into law in December 2016, defined interoperability and prohibited information blocking.  
The Cures Act gave HHS further ability to propose and enact regulations.*



### ONC Final Cures Act

*Final Rule released March 2020, covering  
Health IT Certification requirements and  
defining exceptions to information blocking*



### CMS Patient Access Rule

*CMS Final Rule released March 2020 including  
requirements for CMS-regulated health plans,  
Providers, and Hospitals<sup>3</sup>*

*(Focus of presentation)*

# Who is Being Regulated: CMS plans

1. Medicare Advantage (MA) organizations,
2. Medicaid Fee-for-Service (FFS) programs,
3. Medicaid managed care plans,
4. CHIP FFS programs,
5. CHIP managed care entities,
6. QHP issuers on the FFEs\*

*\*excluding issuers offering only Stand-alone dental plans (SADPs) and QHP issuers offering coverage in the Federally-facilitated Small Business Health Options Program (FF-SHOP)*

# Requirements for Health Plans

## 1. Patient Access API - *by July 2021*

Patients must be able to share claims, encounter, clinical & formulary data via FHIR APIs & developers must be able to access

## 2. Provider Directory API - *by July 2021*

Public API provider directory for in-network doctors & pharmacies

## 3. Payer-to-Payer Data Exchange - *by Jan 2022*

Ability for health plans to share health information with another health plan to which the member transitions

3



# Product Overview

Health plans can utilize one module or a **fully integrated solution to cover all CMS requirements**

## Integrated FHIR Platform as a Service

### Data Transformation

- Claims, Encounters > FHIR R4
- Provider directory integration

### FHIR Server

- Cloud-based, auto update, serverless
- HIPAA compliant, SOC-II Audited
- Supports R4

### 3rd Party Access Mgmt

- Developer / member token management
- Developer console
- OAuth2 consent member app

### Developer + Member Support

- Community, dev, & member support
- 3rd party app policy /security reviews
- FAQs /API Docs

### Platform Capabilities

- FHIR Bulk Data
- Subscriptions
- SQL interface for analytics
- Automatic updates



Winner of ONC health data provenance award



Winner of HHS secure FHIR server challenge



Award for HSS consumer health data aggregator

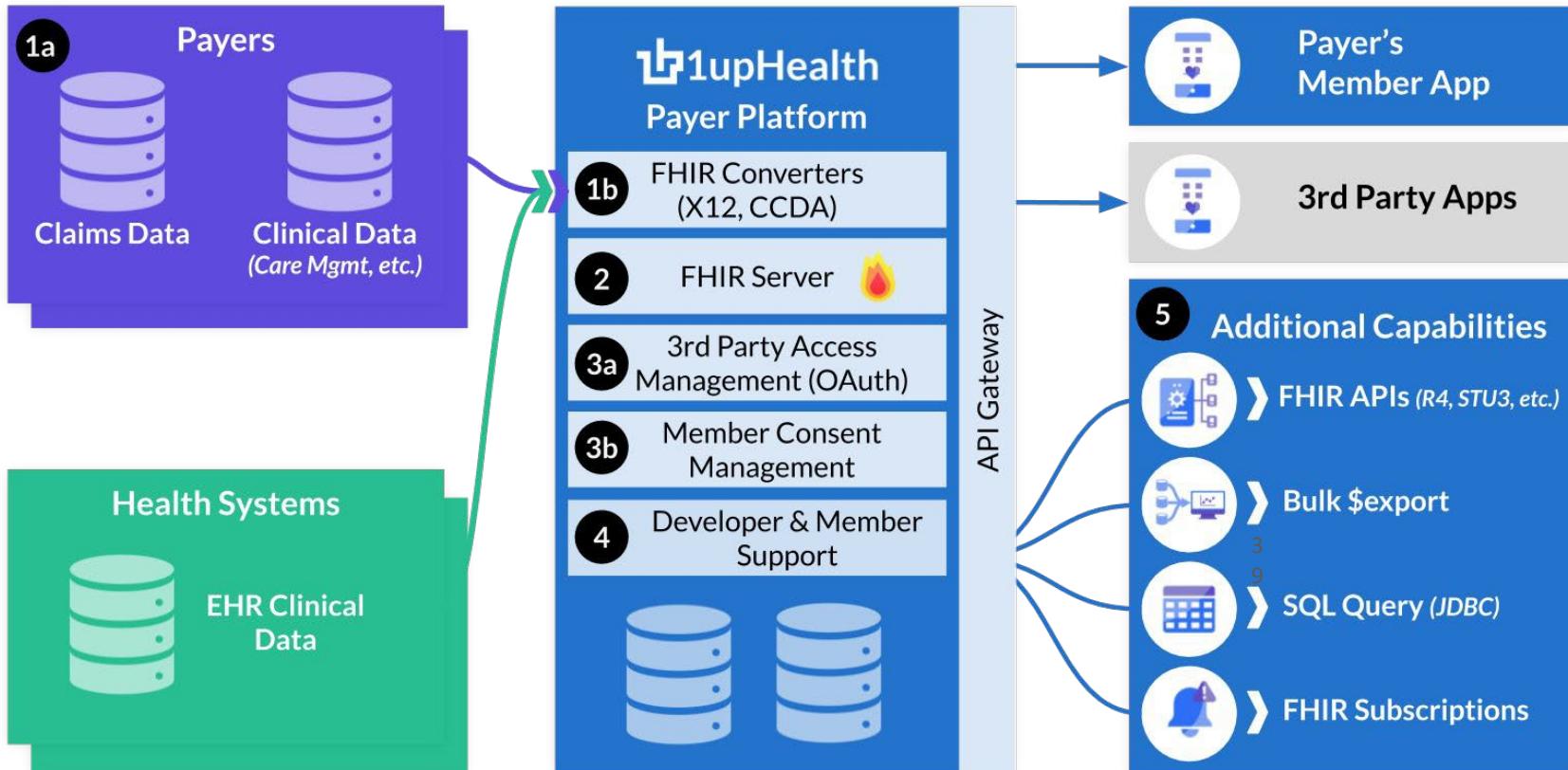


Winner of HHS privacy policy snapshot

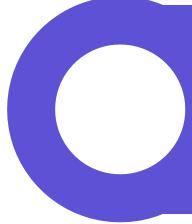


Winner of HHS \$1M Bulk Data LEAP Grant

# Architectural Overview



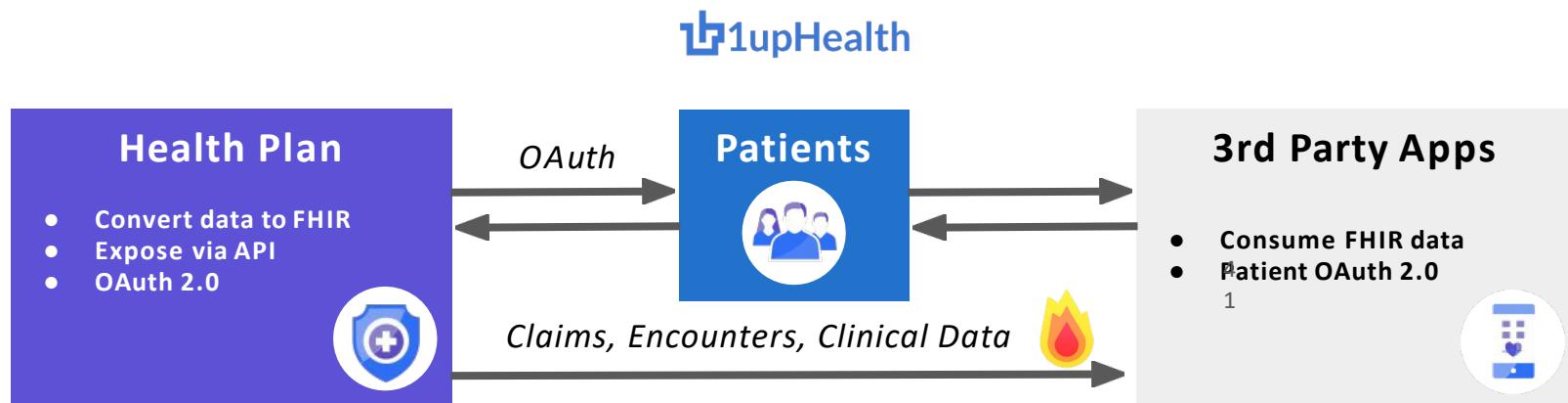
# Deployment Options

	<b>SaaS Multi tenant</b>	<ul style="list-style-type: none"><li>• Deployed on 1up's Serverless stack</li><li>• Data is logically isolated from customers</li><li>• Fully managed by and hosted by 1upHealth</li></ul>
	<b>SaaS Single Tenant</b>	<ul style="list-style-type: none"><li>• Deployed on 1up's Serverless stack</li><li>• Only your data in this environment</li><li>• Fully managed by and hosted by 1upHealth</li></ul>
	<b>PaaS Managed Deploy</b>	<ul style="list-style-type: none"><li>• Deployed on your serverless public cloud</li><li>• Runs within your own VPC</li><li>• Managed by 1up externally</li></ul>



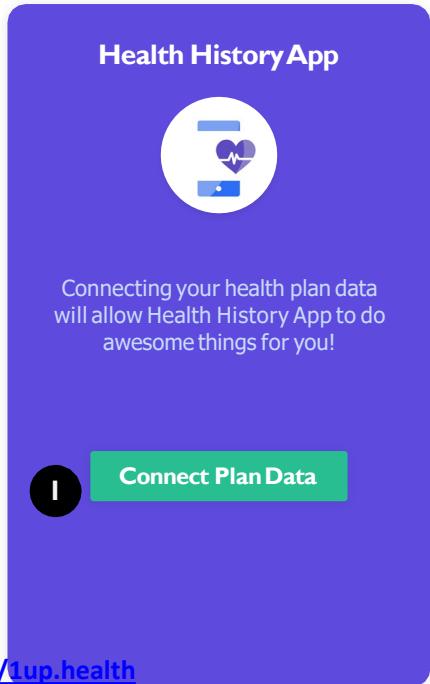
# Patient Access API - by July 2021

CMS-regulated health plans are required to implement a HL7 FHIR R4 API that allows patients to access their claims, encounter and a subset of their clinical info through 3rd party apps of their choice



# 3-Legged OAuth2 Flow (1 of 2)

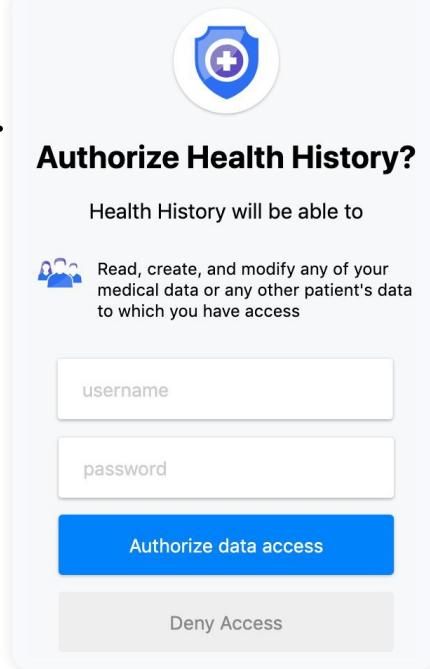
**3rd-Party Health App**  
(requesting a connection  
with a health plan)



## CMS Rule 3-Legged OAuth2 1upHealth Auth Flow

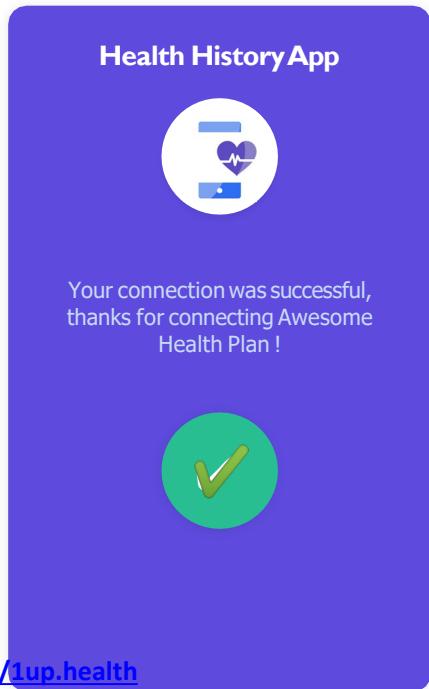
- 1 User taps a “connect” button or link in 3rd-Party App
- 2 3rd-Party application redirects → the user to a Health Plan (1upHealth) Authentication webpage
3. User logs into the Health Plan’s (1upHealth’s) ConsentApp
4. 1upHealth redirects the user back to the 3rd-Party app using the app’s **redirect\_uri** with an **auth code**

**Health Plan  
Member ConsentApp**  
(white-labeled 1upHealth)

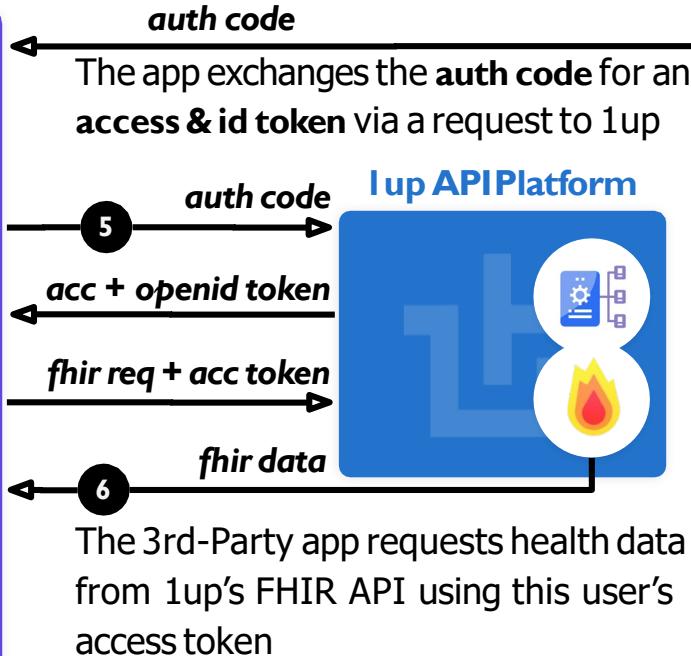


# 3-Legged OAuth2 Flow (2 of 2)

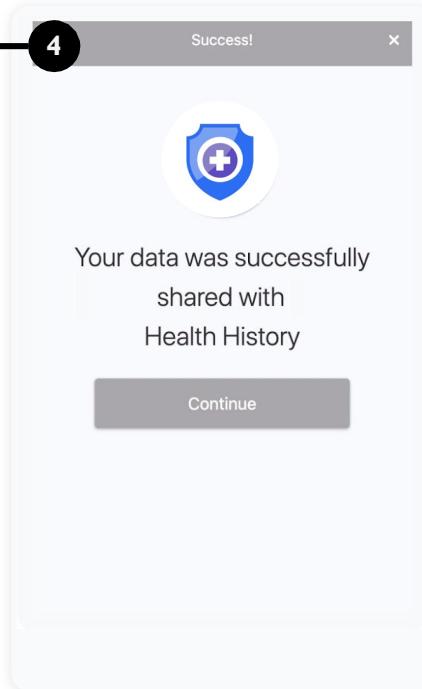
**3rd-Party Health App**  
(requesting a connection  
with a health plan)



## CMS Rule 3-Legged OAuth2 1upHealth Auth Flow



**Health Plan  
Member ConsentApp**  
(white-labeled 1upHealth)



# Provider Directory API - by July 2021

CMS-regulated health plans (except QHP issuers on the FFEs) are required to make provider directory information publicly available via a standards-based API.



*Provider names, addresses, phone numbers, and specialties Info*

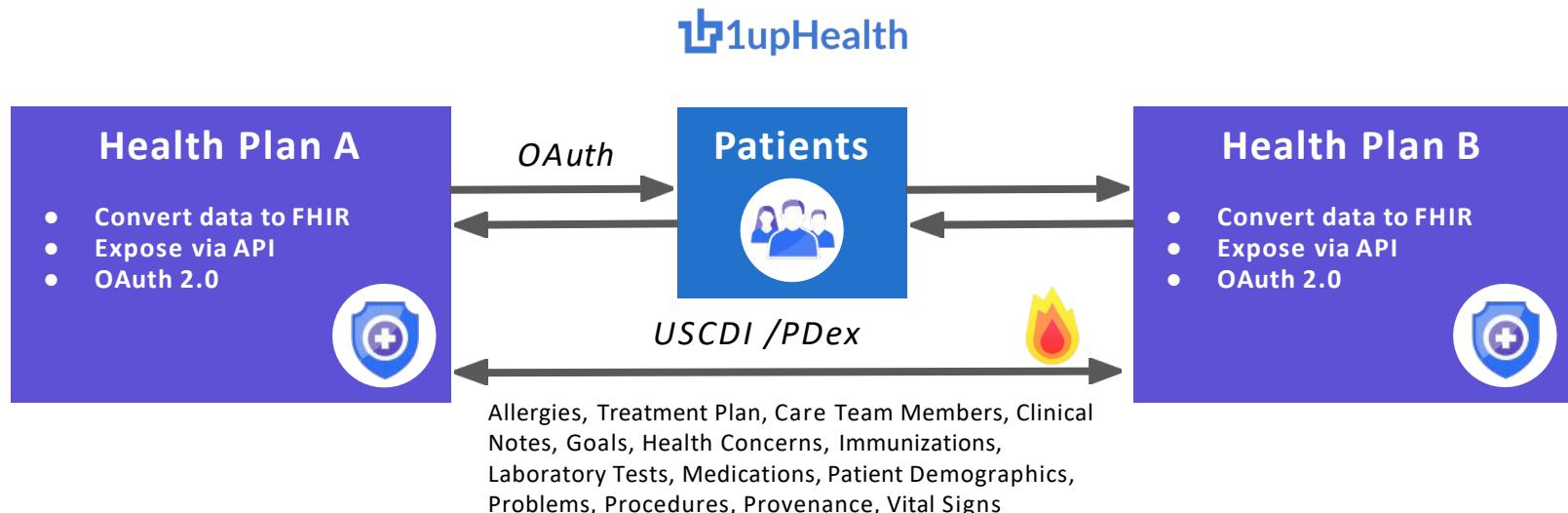


- No authorization required as will be publicly available data
- Public-facing digital endpoint on the health plan's website to ensure public discovery and access



# Payer to Payer Data Exchange - Jan '22

CMS-regulated health plans are required to exchange certain patient clinical data (specifically the U.S. Core Data for Interoperability (USCDI) (this is a spec on top of FHIR) at the patient's request



# 3rd-Party Application Vetting / Gallery

## Terms of Service /Privacy Policy Review

Do you notify members in the event of a breach? Allow members “to be forgotten”

**Security Review - External vulnerability scanning tool like Rapid 7 or Veracode**

**Staffing - This needs some human oversight on an ongoing basis.** 1up has to do it for all the apps that we authorize for CMS, VA, Epic, Cerner, etc.



### Affiliations

All Apps  
CARIN Code of Conduct  
1upHealth  
CMS Medicare Blue Button 2.0  
Commonwell  
Carequality  
Veterans Health Administration  
COVID-19 Support



### 1upHealth Patient App

1upHealth  
[Tuphealth](#) [Medicare](#) [Veterans Health Administration](#)

At 1upHealth, we believe that you should be in control of your health information. You choose how much data to share and where you want to share it. Looking for a second opinion? No more calling and waiting for faxed records. Need help managing your conditions? Easily share information with family and friends. Let us help you on your way to better health. Get connected today!



### b.well Connected Health

b.well Connected Health  
[Medicare](#) [EHRs](#) [covid19](#)

b.well is a middleware for interoperability and aggregation that consolidates real-time data and point solutions to deliver value to consumers.



### Citizen

Citizen  
[1upHealth](#)

Citizen is an online platform for patients - beginning with cancer patients - to collect and share their records digitally, free of charge.



### myFHR (my Family Health Record)

Care Evolution  
[Medicare](#) [Veterans Health Administration](#) [EHRs](#)

All your health information in one place. Under your control. Secure.



<https://1up.health>

# Why 1upHealth

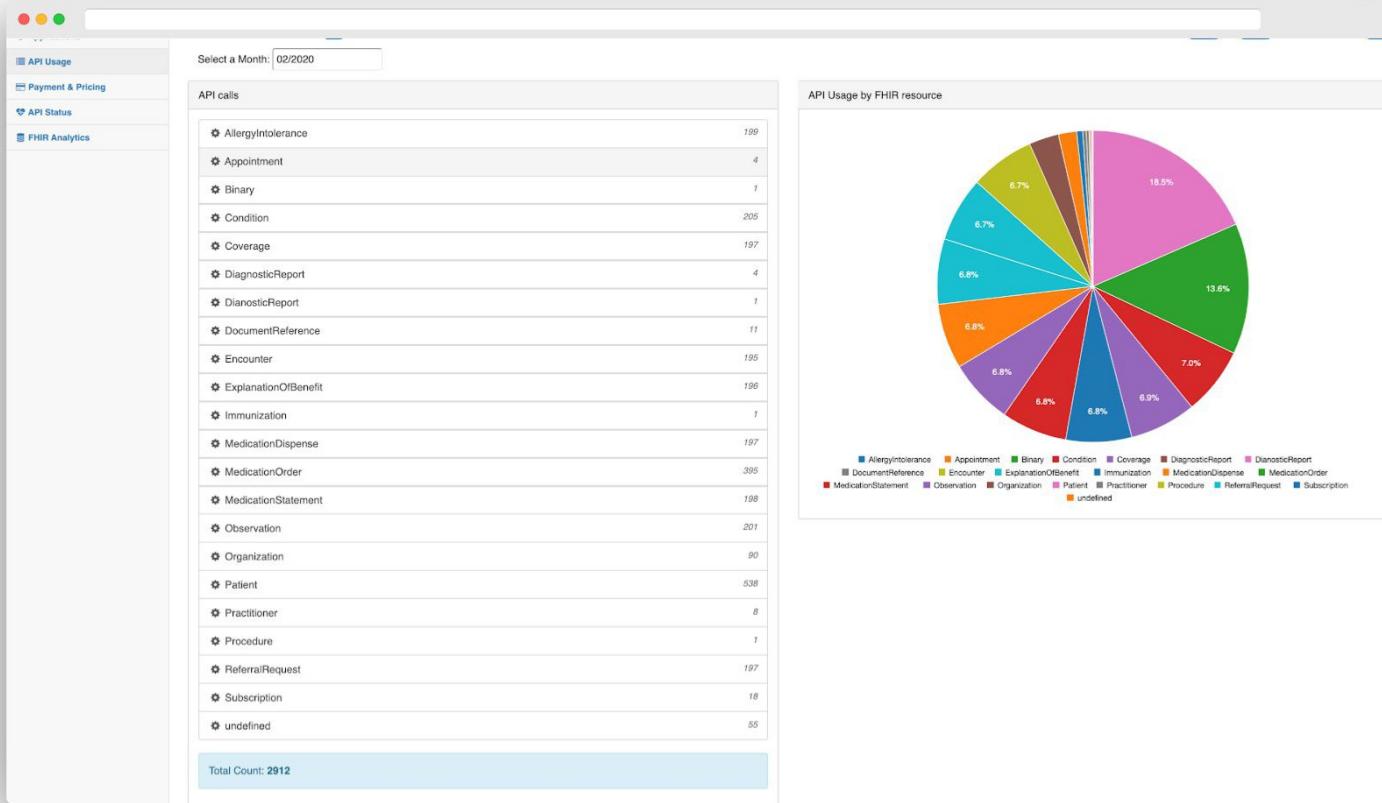
1. Fully integrated, award-winning FHIR platform  
**already in production at health plans with millions of members**
2. **Technology and support** to meet the CMS regs
3. 1up offers the **largest FHIR native connectivity across the US** with 10,000 health systems
4. Support additional payer use cases like Da Vinci

# Questions?

[ricky@1up.health](mailto:ricky@1up.health)

[kyle@1up.health](mailto:kyle@1up.health)

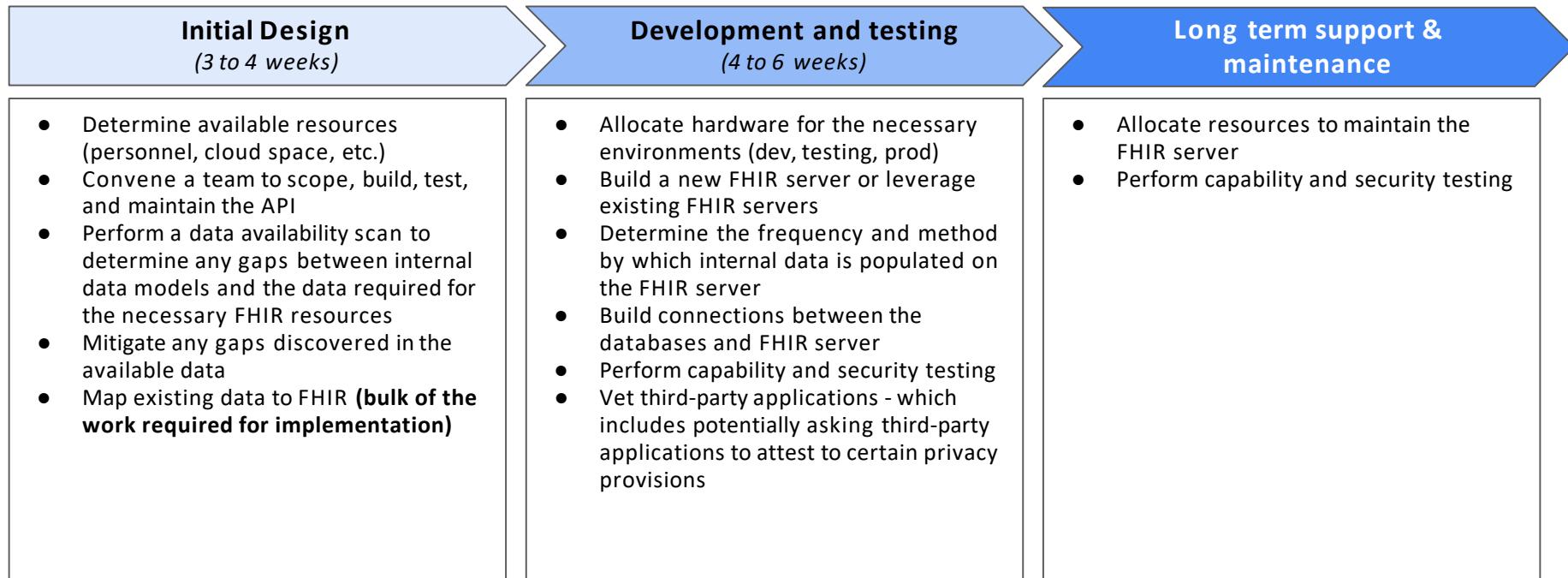
# 3rd-Party Dev Console API Logging



# API Tests Logged in Dev Console

Time	Test Description	Duration	Status
04-24 13:35	api - Test-user should have no associated FHIR Resources (Preauthorization): Quick-Connect [stu3]	0.007	✓
04-24 13:35	api - Test-user should have no associated FHIR Resources (Preauthorization): Normal-Connect [stu3]	0.007	✓
04-24 13:35	api - Test-user should have no associated FHIR Resources (Preauthorization): Quick-Connect [dstu2]	0.136	✓
04-24 13:35	api - Test-user should have no associated FHIR Resources (Preauthorization): Normal-Connect [dstu2]	0.179	✓
04-24 13:35	api - Should generate access token: Quick-Connect test user	0.044	✓
04-24 13:35	api - Should generate access token: Normal-Connect test user	0.045	✓
04-24 13:35	api - Should create test user: Quick-Connect	0.079	✓
04-24 13:35	api - Should create test user: Normal-Connect	0.138	✓
04-24 13:28	api - Test-users should have associated FHIR Resources (Post-authorization) Quick Connect [stu3] (0 resourceTypes)	0.106	✓
04-24 13:28	api - Test-users should have associated FHIR Resources (Post-authorization) Quick-Connect [dstu2] (15 resourceTypes)	45.257	✓
04-24 13:28	api - Test-users should have associated FHIR Resources (Post-authorization) Normal-Connect [stu3] (0 resourceTypes)	0.108	✓
04-24 13:28	api - Test-users should have associated FHIR Resources (Post-authorization) Normal-Connect [dstu2] (15 resourceTypes)	9.858	✓
04-24 13:28	api - Quick-Connect authorization: should authorize access on Cerner	136.853	✓
04-24 13:28	api - Quick-Connect authorization: should authorize access on EPIC	47.286	✓

# Implementation Overview





# Boston Children's Hospital Population Health Application

SMART®  
PopHealth App

MEASURES REPORT LOGOUT

**DATA SOURCES**

- BCH Epic
- BCH Cerner
- Aetna Claims
- MassHealth Claims
- BCBS Claims

Payer: MassHealth ▾ Organization: All Organizations ▾ Clinic: None Selected ▾ Update

### Immunizations for Adolescents

Boston Children's Hospital

% Patients

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Oct  
● Current Year: 82.77 %  
● Previous Year: 73.02 %

Highcharts.com

### Boston Children's Hospital

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Childhood Immunization Status	1%	1%	12%	22%	34%	34%	39%	40%	45%	55%	53%	56%
Immunizations for Adolescents	11%	17%	18%	29%	37%	49%	60%	71%	77%	83%	84%	90%
Depression Screening and Follow-up Plan	5%	13%	14%	22%	32%	32%	34%	36%	36%	47%	71%	72%
Depression Remission or Response	9%	20%	32%	33%	41%	42%	49%	59%	65%	69%	68%	77%

## Old Way

- 10 person team
- Manual data extraction every 3 months
- Custom queries and reports
- No visibility across clinical + claims data
- Retrospective only

# Provider - Top 4 Payer Integration

Aggregating clinical member population data from 5 joint venture health systems across multiple markets / EHRs Payer analyzes data and generate insights to embed directly into the provider workflow



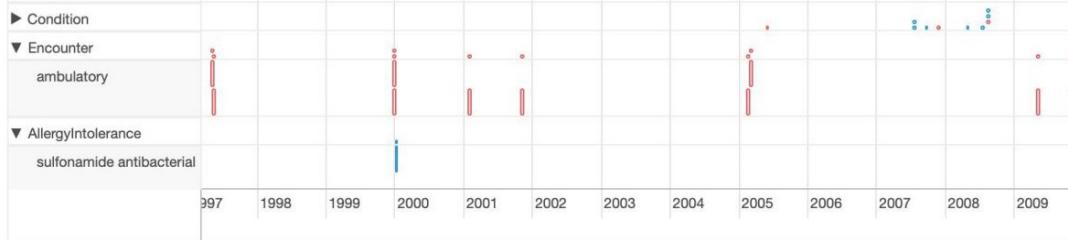
♂ ADAMS, Daniel X.  
MRN 1288992  
ADDRESS  
home 1 Hill Ave Apt 14  
Tulsa, OK 74117  
USA

DOB 12/22/1925 (93 yrs)  
CONTACT  
email daniel.adams@example.com

**SenderName: Patient Dispense Not Filled**

Patient Daniel ADAMS has been prescribed XYZ Medication, but our records show that the dispense has not been filled. Please discuss medication adherence with Daniel ADAMS and his care team.

**Mark As Resolved** **Dismiss**



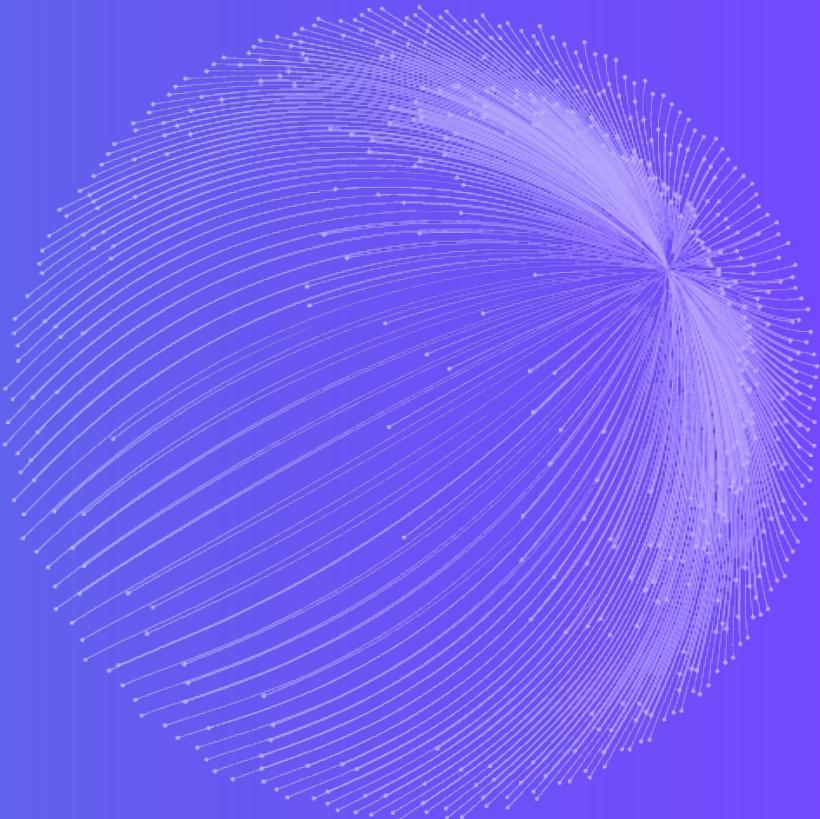
## Old Way

- Flat file exchange
- Separate reporting on lagged claims vs clinical data
- One-off point integrations



## Interoperability and APIs in the Age of COVID-19

Ali Zaman, VP of Marketing



# Our APIs enable developers to access data seamlessly, powering fundamental clinical workflows for end-users

Developers choose HG to solve multiple data access needs without having to work with multiple vendors



Patient360 API

Retrieve medical records  
from EHR systems



CPOE API

Place lab orders &  
receive test results



NLP API

Structure clinical data  
from text and images



eFax API

Send and receive fax  
documents to any provider



FHIR Store API

Store all FHIR resources  
with read/write capabilities



ID Verification API

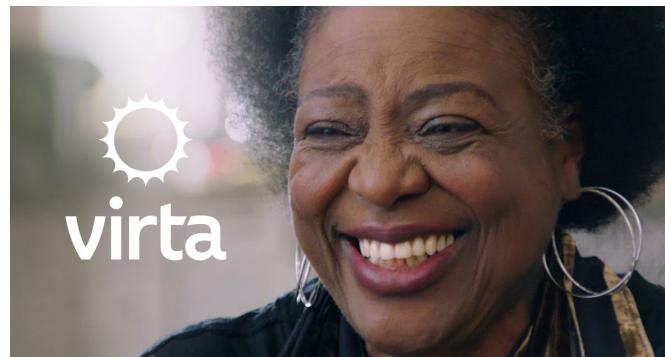
Authenticate provider &  
patient identity



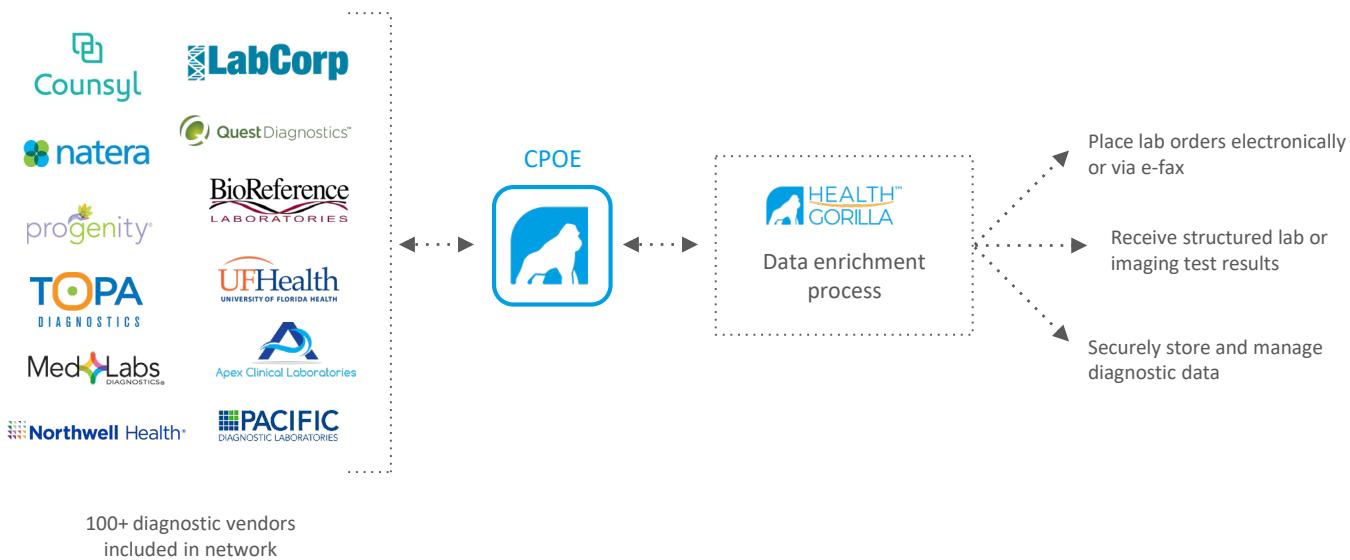
Provider Lookup API

Search an enriched national  
database of providers and labs

Leaders in digital health use our FHIR APIs to retrieve high quality patient data from thousands of vendors



# Health Gorilla's diagnostic network enables developers and providers to place orders & receive test results from 100+ labs



# Processed over 7,000 COVID-19 test results through our API

## 8.7% positivity rate

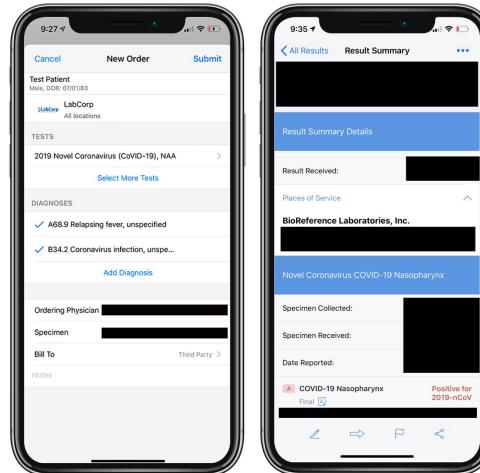
8.7% of patients who were tested by our provider users tested positive for COVID-19

## 3 day turnaround time

On average, it took 3 days to get results back after the initial order was placed

## Test volume starting to slow

Testing volume spiked in April and is now beginning to decelerate.



# Virta Health uses our APIs to track lab values for their patients, enabling revenue recognition from payers



Three vertical screenshots of the Virta mobile application. The first screenshot shows a "Prepare" section with a progress bar for "Ends Aug 8th • 40 days left" and a "68%" completion rate. It also shows a "Watch" section titled "Virta History: The Science Of How We Got Here" with a "Play" button and a "I watched it!" button. The second screenshot shows a "Chat" interface with a message from a coach: "I noticed your ketone level is going up—latest was 0.5! Keep it up!" and a response: "Yay! And I'm feeling great! Much more energy." The third screenshot shows a dashboard with "My History" for "Past 24 Hours" and "Weekly Averages". It displays three main metrics: Glucose Non-Fasting at 83, Ketones at 0.5, and Weight at 194. Each metric has a line graph showing trends over time and a "Measured at 8:48 pm" timestamp.

Virta places ~8000 calls to our API every week.

Virta uses our API to automatically trigger lab orders for any patient enrolling in or receiving treatment in their program.

"Tapping into Health Gorilla's vast network of diagnostic vendors via a single API based on modern standards enables the successful delivery of chronic disease care at scale, while freeing up engineers to spend time solving technical problems unique to Virta."

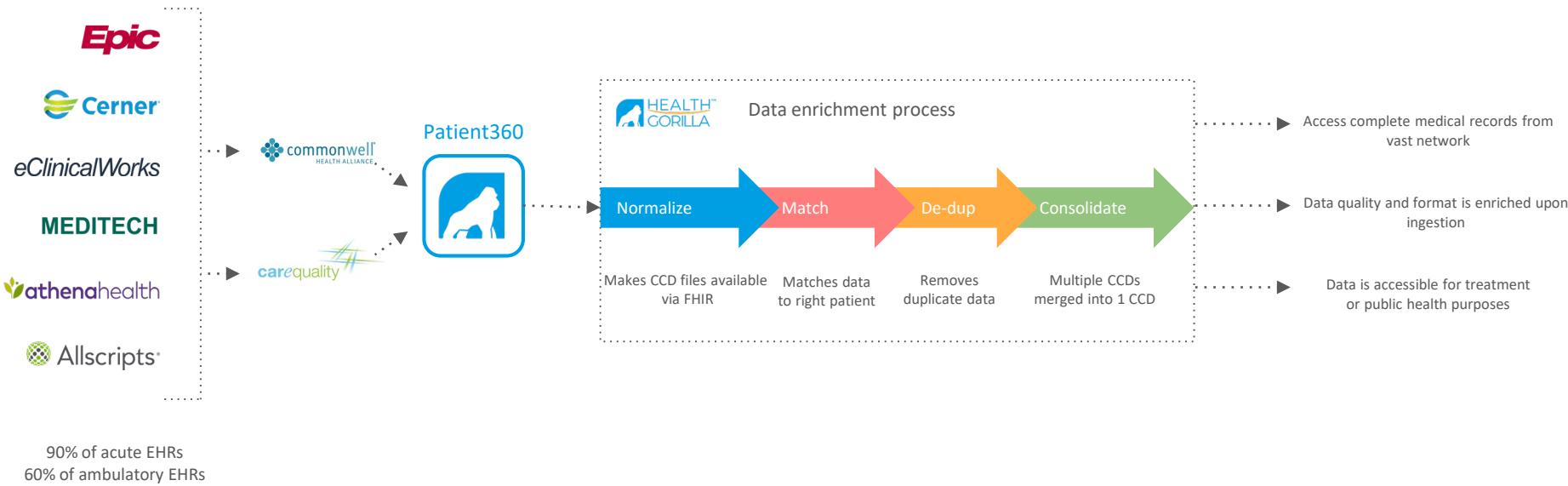


**Sam Reider**  
Senior Software Engineer



# Health Gorilla is a certified connector of CommonWell and Carequality

Together, this enables clinical record retrieval from over 65,000 care sites.



# Health policy leaders are encouraging public health agencies to streamline COVID-19 clinical data retrieval efforts

Authored by former ONC head and former CMS admin on 5/1/2020

## 2. Supplement Case Investigations with Clinical Data

State and local health officials should use their existing public health legal authority to define the minimum data necessary for the COVID-19 containment “use case” as a routine part of onboarding into widely-used clinical data exchanges

The trust framework governance entities that oversee secure data exchange should adopt policies necessary for universal responses to authorized public health queries, in a manner that is fully transparent to all participants and fully auditable.

State and local public health officials should evaluate and choose a portal-based connector as an “on-ramp” to access data, ensuring they meet key functional and security criteria.

The image shows the cover of a report from the Duke Center for Health Policy. The title is "DATA INTEROPERABILITY AND EXCHANGE TO SUPPORT COVID-19 CONTAINMENT". It features the Duke logo and the names Farzad Mostashari and Mark McClellan. The background includes a photograph of a modern building and a street scene.

Source: [Duke University Interoperability Report](#) published 5/1/2020.

## Health Gorilla has been recommended as only clinical exchange portal that met functional and security criteria for public health depts

- The current process to retrieve medical records is a highly manual & burdensome process
- Today, this involves calling practices and requesting records over fax, or asking providers for their EHR credentials
- Health Gorilla's Patient360 solution allows public health departments to do 1 mass query, and retrieve all data on a particular patient from most major EMR systems in the US

Where there are pre-existing relationships between public health and state/ local HIEs that have broad coverage, the public health agency may choose to use those entities either directly, or as “on-ramps” to other trusted exchanges. Where that option is not available, or coverage is inconsistent, and matching is inadequate, public health jurisdictions should consider portal-based connectors. After a review of current options, **our current recommendations are for state/local public health departments to consider and evaluate two intermediaries that offer the greatest chance of meeting public health utility based on our key selection criteria (see Appendix on page 12).**

1. [Health Gorilla](#), which is both a Member of CommonWell and an Implementer on Carequality, currently provides query access to all acute-care sites on both networks, and maintains its own set of services (MPI and RLS) and capabilities (event notifications) that could increase utility for public health.

Source: [Duke University Interoperability Report](#) published 5/1/2020.

In addition to minimum dataset required for COVID-19 cases, public health departments will have access to comprehensive set of clinical data

Labs	ADTs
Imaging	Progress notes
Vitals	Social history
Allergies	Encounters
Immunizations	Family history
Medications	Medical equipment

### 3. Retrieve document metadata

API method that allows to read medical documents for the specified CareQuality patient.

#### Request

'search' request should be made to **DocumentReference** endpoint.

#### HTTP

```
https://api.healthgorilla.com/fhir/DocumentReference/$cq-search  
?patient.identifier=https://www.healthgorilla.com/cq/CQ_PATIENT_IDENTIFIER
```

#### Parameters

Name	Value	Description
patient.identifier	IDENTIFIER	CareQuality patient identifier. System: <a href="https://www.healthgorilla.com/cq">https://www.healthgorilla.com/cq</a> Mandatory.

#### Example

Retrieve medical documents for the given CareQuality patient.



# Available via API and web-based app

Technical documentation is accessible at  
[developer.healthgorilla.com](https://developer.healthgorilla.com)

## 3. Retrieve document metadata

API method that allows to read medical documents for the specified CareQuality patient.

Request

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### HTTP

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https://api.healthgorilla.com/fhir/DocumentReference/$cq-search  
?patient.identifier=https://www.healthgorilla.com/cq|CQ_PATIENT_IDENTIFIER
```

### Parameters

Name	Value	Description
patient.identifier	IDENTIFIER	CareQuality patient identifier. System: <a href="https://www.healthgorilla.com/cq">https://www.healthgorilla.com/cq</a> Mandatory.

### Example

Retrieve medical documents for the given CareQuality patient.

Receive an account on [healthgorilla.com](https://healthgorilla.com) to place lab orders and retrieve records

## Request Patient Records

### Records Found: 50

Add Records to Chart adds all records found to the patient chart and enrolls the patient in Patient360. New records will be retrieved automatically.

**Maria Gomez** (35/female)  
DOB: 12/31/1983 • Santa Anna, CA 95050

#	NETWORK	DOCUMENT DATE	DOCUMENT TITLE
30	Stanford Hospital & Clinics	07/18/2019	Continuity of Care Document
		07/18/2019	All Clinical Document
10	Clinics and University Healthcare Alliance	07/18/2019	All Clinical Summary
		07/18/2019	Continuity of Care Document
5	UCSF	07/18/2019	All Clinical Summary
		07/18/2019	Continuity of Care Document
5	El Camino	07/18/2019	Continuity of Care Document
		07/18/2019	All Clinical Summary
		07/18/2019	Continuity of Care Document
		07/18/2019	All Clinical Summary





Documentation is available at

<http://developer.healthgorilla.com>

azaman@healthgorilla.com

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# Social Determinants of Health Track

Housing Instability Screeners from the HSLink Homeless Management Information System (HMIS) with FHIR Resources



INTEROPERABILITY  
INSTITUTE

# summary

Overview

The Track Mission

HSLink

FHIR Resources

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# Overview

This InterOpathon track was conceived as a subproject of the National Interoperability Collaborative's Project Unify, which seeks to improve communication between human services and health care systems.

Project Unify has four initial use case scenarios; one references the problem of homelessness and the use of Social Determinants of Health (SDoH). For this track, we focus on this SDoH scenario.





# Your mission, should you choose to accept it...

- 1 Find Housing Instability screeners based on the draft Project Gravity master screener list.
- 2 Get available similar HMIS screener information from HSLink, an open source human services system to incorporate into your app. HSLink contains the generated persona.
- 3 Incorporate FHIR resource information for the matching generated persona into your app.
- 4 Document SDoH interoperability insights, and possible workflows. Workflows can originate in the FHIR resource, or in the HMIS data.



# open source PaaS

HSlynk is a human services data centric platform.

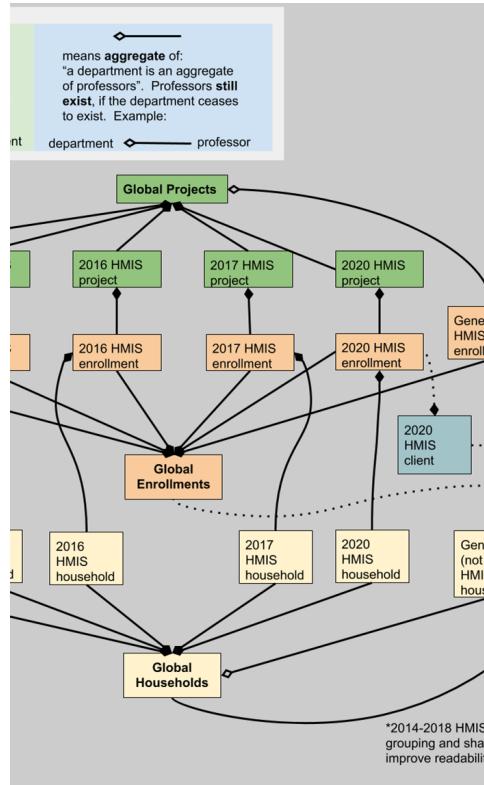
## Resources:

APIs: <https://docs.hslynk.com>

Wiki: <https://github.com/servinglynk/hslynk-open-source-docs/wiki>

Track Guide:

<https://bit.ly/3cL8yFi>





# FHIR Resources

- see Track Guide for details on calling HAPI FHIR resources:  
<https://bit.ly/3cL8yFi>
- patient match with HSlynk only on the single generated Persona
- generated persona household members are only in HSlynk



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See you at the  
InterOpathon!





# Questions?





# Thank you!

This concludes our webinar series!  
We look forward to “seeing” you next week at the event.

**Thursday, May 28<sup>th</sup> – 29<sup>th</sup>  
9AM EST kickoff on the 28<sup>th</sup>**

For help please contact [events@interoperabilityinstitute.org](mailto:events@interoperabilityinstitute.org)